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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.	
10/609,468	07/01/2003	Manabu Kodate	028567-0113	1060	
22428	7590	08/11/2005	EXAMINER		
FOLEY AND LARDNER				PIZIALI, JEFFREY J	
SUITE 500				ART UNIT	
3000 K STREET NW				PAPER NUMBER	
WASHINGTON, DC 20007				2673	

DATE MAILED: 08/11/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/609,468	KODATE ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Jeff Piziali	2673	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

1) Responsive to communication(s) filed on 01 July 2003.

2a) This action is FINAL.                    2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

4) Claim(s) 1-20 is/are pending in the application.

4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

5) Claim(s) \_\_\_\_\_ is/are allowed.

6) Claim(s) 1-20 is/are rejected.

7) Claim(s) \_\_\_\_\_ is/are objected to.

8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on 01 July 2003 is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All    b) Some \* c) None of:

1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413)
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Date. _____
3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____	5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
	6) <input type="checkbox"/> Other: _____

**DETAILED ACTION**

*Priority*

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

*Drawings*

2. Figures 6A-6C, 10, 11, and 15A-15E should be designated by a legend such as --Prior Art-- because only that which is old is illustrated (see Pages 5-6 of the Specification). See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

3. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference characters not mentioned in the description: "37" (see Fig. 7) and "103a" (see Fig. 15C). Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference characters in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing

on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

4. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign mentioned in the description: "L2" (see Page 22, Line 18 of the Specification). Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

*Specification*

5. The disclosure is objected to because of the following informalities: Page 26, Line 6 should change from "devicees" to "devices." Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 4-8, 11, and 16-18 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

8. The term "in the vicinity" in independent claims 4 and 16 is a relative term which renders the claim indefinite. The term "in the vicinity" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. It would remain unclear to one of ordinary skill in the art how close the first and second wires must be before being considered *in the vicinity* of one another.

9. Claim 11 recites the limitation "the spacer is arranged at a position with a largest distance from the wire" in lines 2-3. There is insufficient antecedent basis for this limitation in the claim. Specifically, it would remain unclear to one of ordinary skill in the art what other distances from the wire should be considered.

10. Dependent claims 5-8, 17, and 18 are rejected under 35 U.S.C. 112, second paragraph, as being dependent upon respective indefinite base claims.

***Claim Rejections - 35 USC § 102***

11. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

12. Claims 1, 2, 4-7, 9-11, 13, 14, 16, 17, and 19 are rejected under 35 U.S.C. 102(a) as being anticipated by the Instant Application's Description of Prior Art.

Regarding claim 1, the Instant Application's Description of Prior Art discloses an image display element, comprising: a plurality of data lines to which display signals are applied, the data lines being embedded in a substrate; a plurality of scan lines to which scan signals are applied, the scan lines being embedded in the substrate (see Page 1, Lines 10-25); a first wire [Fig. 6A; 32] having a surface which is exposed, the first wire being electrically connected to one of the scan lines; and a second wire [Fig. 6A; 33] having a surface which is exposed, wherein a distance between the first wire and the second wire is more than or equal to 5 $\mu$ m [wherein the distance measurement is taken from the left-side edge of the first wire to the right-side edge of the second wire, for instance] (see Page 13, Line 8 - Page 14, Line 22).

Regarding claim 2, the Instant Application's Description of Prior Art discloses a potential of the second wire is substantially equal to a potential of a scan line other than the one scan line (see Page 13, Lines 8-21).

Regarding claim 4, this claim is rejected by the reasoning applied in rejecting claim 1; furthermore, the Instant Application's Description of Prior Art discloses the second wire [Fig. 6A; 33] being arranged in the vicinity of the first wire [Fig. 6A; 32]; and an insulator [Fig. 10; 51] that is arranged to cover the surface of at least one of the first and second wires [Fig. 10; 47] (see Page 21, Line 9 - Page 22, Line 14).

Regarding claim 5, this claim is rejected by the reasoning applied in rejecting claim 2.

Regarding claim 6, the Instant Application's Description of Prior Art discloses a counter substrate [Fig. 10; 49] that is disposed opposite to the substrate, with a distance from the substrate, wherein the insulator is a spacer [Fig. 10; 51] that prescribes the distance (see Page 21, Line 9 - Page 22, Line 14).

Regarding claim 7, the Instant Application's Description of Prior Art discloses the insulator is a light-shield film [Fig. 10; 51] that has a light transmission area [Fig. 10; 50] (see Page 21, Line 9 - Page 22, Line 14).

Regarding claim 9, this claim is rejected by the reasoning applied in rejecting claims 1 & 6; furthermore, the Instant Application's Description of Prior Art discloses a spacer [Fig. 10; 51] that is mounted on any one of the first substrate and the lower surface of the second substrate [Fig. 10; 48 & 49], with a distance of at least 5 $\mu$ m from the wire [wherein the distance measurement is taken from the left-side edge of the first wire/spacer (Fig. 10; 47 & 50,

corresponding to Fig. 6A; 32) to the right-side edge of the second wire (Fig. 6A; 33), for instance], and that prescribes a distance between the first substrate and the second substrate (see Page 21, Line 9 - Page 22, Line 14).

Regarding claim 10, this claim is rejected by the reasoning applied in rejecting claim 7; furthermore, the Instant Application's Description of Prior Art discloses the spacer [Fig. 10; 51] is arranged on a light-shield area [Fig. 10; 47] (see Page 21, Line 9 - Page 22, Line 14).

Regarding claim 11, this claim is rejected by the reasoning applied in rejecting claims 7 and 10; furthermore, the Instant Application's Description of Prior Art discloses the spacer is arranged at a position with a largest distance from the wire [Fig. 10; 47] (see Page 21, Line 9 - Page 22, Line 14).

Regarding claim 13, this claim is rejected by the reasoning applied in rejecting claim 1; furthermore, the Instant Application's Description of Prior Art discloses a data line driving circuit and a scan line driving circuit (see Page 1, Lines 10-25).

Regarding claim 14, this claim is rejected by the reasoning applied in rejecting claim 2.

Regarding claim 16, this claim is rejected by the reasoning applied in rejecting claims 1, 4, and 13.

Regarding claim 17, this claim is rejected by the reasoning applied in rejecting claim 2.

Regarding claim 19, this claim is rejected by the reasoning applied in rejecting claims 1, 6, 9, and 13.

***Claim Rejections - 35 USC § 103***

13. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

14. Claims 3, 8, 12, 15, 18, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over the Instant Application's Description of Prior Art in view of Kwon (US 6,486,930 B1).

Regarding claim 3, the Instant Application's Description of Prior Art does not expressly disclose any particular display element arrangement of pixel electrodes and switching devices. However, Kwon does disclose a first pixel electrode [Fig. 5A; 71c] and a second pixel electrode [Fig. 5A; 73c] that are supplied with display signals from one of the data lines [Fig. 5A; D1]; a first switching device [Fig. 5A; 71b] that controls a supply of the display signal in the one data line, wherein the first switching device is electrically connected between the one data line and the first pixel electrode and that has a gate electrode; a second switching device [Fig. 5A; 71a] that is electrically connected between the gate electrode of the first switching device and one scan line [Fig. 5A; G1]; and a third switching device [Fig. 5A; 73] that is connected to the one

data line and that controls a supply of the display signal to the second pixel electrode (see Column 3, Line 59 - Column 4, Line 36).

The Instant Application's Description of Prior Art and Kwon are analogous art, because they are both from the shared field of active matrix liquid crystal display devices. Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to use the substrate fabrication techniques of the Instant Application's Description of Prior Art to manufacture Kwon's multiplexed image structure, so as to reduce the necessary number of data lines.

Regarding claim 8, this claim is rejected by the reasoning applied in rejecting claim 3.

Regarding claim 12, this claim is rejected by the reasoning applied in rejecting claim 3.

Regarding claim 15, this claim is rejected by the reasoning applied in rejecting claim 3; furthermore, Kwon discloses a first pixel electrode [Fig. 5A; 73c] and a second pixel electrode [Fig. 5A; 71c] that are supplied with a display signal from a same data line [Fig. 5A; D1]; a first switching device [Fig. 5A; 73] that controls the supply of the display signal from the data line to the first pixel electrode, and that is driven based on a scan signal supplied from a first scan line [Fig. 5A; G1]; a second switching device [Fig. 5A; 71b] that controls a supply of the display signal from the data line to the second pixel electrode, and that is driven based on a scan signal supplied from a second scan line [Fig. 5A; G2] subsequent to the first scan line; and a third switching device [Fig. 5A; 71a] that is driven based on the scan signal supplied from the first

scan line, and that controls ON and OFF of the second switching device (see Column 3, Line 59 - Column 4, Line 36).

Regarding claim 18, this claim is rejected by the reasoning applied in rejecting claims 3 and 15.

Regarding claim 20, this claim is rejected by the reasoning applied in rejecting claims 3 and 15.

### ***Conclusion***

15. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Hebiguchi et al (US 6,583,777 B2), Yamauchi et al (US 6,512,504 B1), Hebiguchi (US 6,292,237 B1), Sakamoto (US 6,028,577 A), Kitajima et al (US 5,475,396 A), Oki et al (US 5,408,252 A), Wu (US 5,193,018 A), Kabuto et al (US 5,151,689 A), Noguchi et al (US 4,969,718 A), Shannon (US 4,931,787 A), Noguchi (US 4,781,438 A), and Saito (US 4,775,861 A) are cited to further evidence the state of the art pertaining to image display elements.

Art Unit: 2673

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeff Piziali whose telephone number is (571) 272-7678. The examiner can normally be reached on Monday - Friday (6:30AM - 3PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bipin Shalwala can be reached on (571) 272-7681. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



J.P.

4 August 2005



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